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ABSTRACT

TITLE OF THESIS: Overhead SIGINT: The process, the challenge, the quality

STUDENT: [redacted] (b)(6)

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THESIS COMMITTEE CHAIRPERSON: [redacted] (b)(3):10 USC 424,(b)(3):P.L. 86-36

(b)(3):50 USC 403-1(i)

(~~TS~~ [redacted] There is currently no formalized, customer-driven process in place for the evaluation of overhead signals intelligence (SIGINT) collection. In this era of increasing public and congressional scrutiny of how the Intelligence Community applies its decreasing resources, such an evaluative capability is called for. A sustained effort to ensure that this extremely expensive resource is exploited in the most efficient and effective manner possible would improve collection, increase customer satisfaction and demonstrate the good faith of the Intelligence Community and its awareness of increasing pressure to reduce or eliminate inflexible and inefficient programs. Such a process is herein described. It can be accessible to any

level of customer desiring to provide feedback, via the globally accessible Intelink.

(b)(3):50 USC 403-1(i)

(b)(3):50 USC 403-1(i)

~~TOPSECRET~~ (b)(3):50 USC 403-1(i)

OVERHEAD SIGINT: THE PROCESS, THE CHALLENGE, THE QUALITY

by

(b)(6)

Cohort IV 1995

Thesis submitted to the Faculty of the Joint Military Intelligence College in partial fulfillment of the requirements for the degree of Master of Science of Strategic Intelligence

July 1995

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(b)(3):50 USC 403-1(i)

Evaluation is not part of the traditional "intelligence cycle"... Evaluation involves more than feedback, although feedback is clearly important in any effort to evaluate production... a system must be developed... Probably no perfect way exists to evaluate... experience shows that using [evaluative methodologies] gives managers and analysts alike a more sensible view of the utility of their work, and enables them to correct problems before serious mistakes are made.

Arthur s. Hulnick, Managing Intelligence Analysis: Strategies for Playing the End Game

ACKNOWLEDGEMENTS

I would like to thank all those who provided guidance, encouragement and technical assistance in this endeavor: Ms. (b)(3):P.L. 86-36 suggested this topic as one badly in need of address, and continues by example to serve as mentor; (b)(3):P.L. 86-36 (b)(3):P.L. 86-36 enthusiastically approved the concept and provided support; (b)(3):10 USC 424,(b)(3):P.L. 86-36 for their assistance in defining the problem, technical advice and patient, constructive readership; and (b)(3):P.L. 86-36 (b)(3):P.L. 86-36, for his many years of thorough, exact and unfailing technical advice and patient tutoring; last but not least (b)(3):P.L. 86-36, for her technical skills and encouragement.

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CHAPTER 1

THE CURRENT STATE OF AFFAIRS:

INTELLIGENCE UNDER A MICROSCOPE

The United States SIGINT System & its Satellites

(b)(3):50 USC 403-1(i)

(~~TS~~) The United States SIGINT System (USSS) operates an astonishingly large variety of signals intelligence collectors from a myriad of locations both above and on the globe. These collection systems are diverse, ranging from ground based (b)(1),(b)(3):50 USC 403,1.4 (c) collectors to mobile ship, vehicle and airborne collectors to satellite collectors. For the purposes of this study, satellite, or overhead, collectors will be the focus. The concept of customer driven feedback has broad applicability, though, and could be applied for evaluation of nearly all signals intelligence collection.

(b)(3):50 USC 403-1(i)

(~~TSC~~)

(b)(1),(b)(3):50 USC 403,(b)(3):P.L. 86-36,1.4 (c)

(b)(3):50 USC 403-1(i)

(b)(1),(b)(3):50 USC 403,(b)(3):P.L. 86-36,1.4 (c)

It continues thus in this new world of nontraditional, multifaceted geographic and technological challenges.

(b)(1),(b)(3):50 USC 403,(b)(3):P.L. 86-36,1.4 (c)

(b)(1),(b)(3):50 USC 403,(b)(3):50 USC 403-1(i),(b)(3):P.L. 86-36,1.4 (c)

(b)(3):50 USC 403-1(i)

(b)(3):50 USC 403-1(i)

(~~TS~~-) These missions are built and operated by the National Reconnaissance Office (NRO);

(b)(1),(b)(3):50 USC 403,(b)(3):P.L. 86-36,1.4 (c)

(b)(3):50 USC 403-1(i)

(~~TS~~-) Figure 1-2 displays the OCMC's core processes:

(b)(1),(b)(3):50 USC 403,(b)(3):P.L. 86-36,1.4 (c)

(b)(3):50 USC 403-1(i)

A Changing World...

(b)(3):50 USC 403-1(i)

(TSC) The SIGINT satellite assets of the United States are increasingly sought after by intelligence customers due to both an increasing recognition of what satellites can do, and also because of the increasing number of intelligence requirements.

(b)(1),(b)(3):50 USC 403,(b)(3):P.L. 86-36,1.4 (c)

Roy Godson, a professor of government at Georgetown University as well as former consultant to the National Security Council and the President's Foreign Intelligence Advisory Board, made the prescient statement in 1989, more prophetic than he must have realized at the time, that:

Determining collection priorities has never been easy, and the problem is becoming ever more difficult. Requirements are outstripping capabilities. Policymakers, analysts, and other intelligence consumers...need more and more information.

(b)(1),(b)(3):50 USC 403,(b)(3):P.L. 86-36,1.4 (c)

(b)(1),(b)(3):50 USC 403,(b)(3):50 USC 403-1(i),(b)(3):P.L. 86-36,1.4 (c)

(b)(3):50 USC 403-1(i)

(TS-) In addition to the daunting intelligence challenges we now face, current fiscal pressures are at an all-time high and promise to increase. Increased competition for diminishing resources demands greater efficiency and

(b)(3):50 USC 403-1(i)

effectiveness in systems operations. As demands to decrease Department of Defense spending escalate, and methods and processes come under increasing scrutiny, collection managers must seek to maximize intelligence gain while minimizing expenditure. There is a relentlessly continuing search for the oft-touted "peace dividend," which in the current and foreseeable climate is not likely to abate. Consequently, Congress used the Intelligence Authorization Act for Fiscal Year 1995 to establish the Commission on the Roles and Capabilities of the United States Intelligence Community, commonly known as the Aspin Commission, to "examine the roles and capabilities of the U. S. Intelligence Community." The Director, NSA (DIRNSA) has already been called upon to appear before this commission to discuss the value of overhead SIGINT.[3] One of its documented charges in this endeavor is to determine:

> (U) Whether the existing *framework for coordinating among* intelligence agencies *with respect to intelligence collection* and analysis and other activities, including training and operational activities, provides an optimal structure for such coordination.[4] (Emphasis added).

(U) In the wake of the Ames espionage case and the emerging indications of impropriety by intelligence elements in Guatemala, there are sure to be sustained demands for

review and justification from the Congress, the public and internal Intelligence Community sources. Former DCI Robert M. Gates, for instance, offered a list of recommended Intelligence Community changes, which reflect the realities of a post Cold War world:

> (U) In any event, a more radical agenda is needed: A new system for establishing intelligence requirements and *evaluating the results* must be structured to force the participation and guidance of senior policy makers – so that the community is focused on the *issues of direct concern to its customers*.[5] (Emphasis added).

...Requires Reciprocal Changes in SIGINT

~~(C)~~ The customer is, arguably, the most important cog in the overhead SIGINT collection wheel. Without customers, there would be no requirements; without requirements, there would be no collection apparatus. Customer identities and concepts will be further addressed in Chapter 2.

(b)(3):50 USC 403-1(i)

~~(TS~~) There currently exists no formal, readily accessible process for customer-driven evaluation of overhead SIGINT collection results, and there is a clear and convincing need for one in this new era. Barbara McNamara, the NSA Deputy Director for Operations, admonishes that:

> ~~(FOUO)~~ We must be receptive and responsive to honest assessment from our internal and external customers. *Clear feedback from the people who use our prod-*

ucts is our guide to improvement. In today's world, organizations must improve continuously or become irrelevant. [6] (Emphasis added).

(~~FOUO~~) The National Security Agency, in its perpetual struggle to improve itself and its product, defined several central functions, or "core processes," critical to producing SIGINT. Selected teams surveyed and critiqued each of the core processes. NSA recognized that a customer at any level wishing to address a problem with collection is faced with a daunting challenge. This deficiency has been acknowledged by senior NSA leaders and managers in the SIGINT Case for Action Report of the "Provide Information" Core Process Team: "Reengineering ...will encompass reviews of: How *customer feedback is communicated and employed* to influence...[7] (Emphasis added).

(~~FOUO~~) This same Core Process Team listed as a deliverable of its endeavors:

(~~FOUO~~) A process for ensuring that the *customer is intimately connected to the SIGINT system* and is able to drive it. This includes the customer's ability to influence resource allocation and to stimulate meaningful, effective action to resolve concerns.[8] (Emphasis added).

Further, DIRNSA's March 1995 overarching policy document "U. S. Cryptologic Strategy; Preparing for the 21st Century" emphasizes that: We must fully understand what our customers need and expect. Our strategy must foster *customer-driven* programs.[9] (Emphasis added).

(b)(3):50 USC 403-1(i)

~~(TS~~) This paper will document the overhead SIGINT collection process, discuss evaluative measures of quality, develop an assessment tool for defining collection mission level of difficulty, and discuss the customer as well as means of communication with the customer. There will be a demonstration of the evaluative model, and recommendations for its implementation. Increasing budgetary and bureaucratic pressure to do more with less under increasing scrutiny make the development of such a model to test and improve the success of overhead SIGINT highly desirable. If the model can highlight weak areas or be used as a tool by parties throughout the process, increased levels of efficiency and effectiveness will be achieved.

(b)(3):50 USC 403-1(i)

NOTES

CHAPTER 1

[1] ((b)(3):50 USC 403-1(i)) National Security Agency, World Wide Web, Intelink, online data service, G35 Homepage, 15 April 1995.

[2] Roy Godson, Intelligence Requirements for the 1990s: Collection, Analysis, Counterintelligence, and Covert Action (Lexington, MA: Lexington Books, 1989), 11.

(b)(3):50 USC 403-1(i)

[3] (~~TOP SECRET HANDLE VIA~~ [redacted] ~~CHANNELS ONLY~~) National Security Agency, "DIR & D/DIR Brief Aspin Commission (U)," Communicator, NSA's Employee Publication 3, no.16 (17 April 1995): 1-2.

[4] US Congress, House, Intelligence Authorization Act for Fiscal Year 1995, Conference Report; Title IX - Commission on the Roles and Capabilities of the United States Intelligence Community, 103d Cong., 2d sess., 1994, H. Rept. 103-753, Sec. 903(a).

[5] Robert M. Gates, "A Leaner, Keener CIA," Washington Post, 30 January 1995, Sec. A15.

[6] (~~FOR OFFICIAL USE ONLY~~) Barbara A. McNamara, Deputy Director for Operations, National Security Agency, "Message from the DDO," Operations Directorate Delta: Ahead of the

(b)(3):50 USC 403-1(i)

Future with SIGINT That Counts 3 no. 2 (March/April 1995): 1.

(b)(3):50 USC 403-1(i)

[7](TOP SECRET National Security Agency, "Case for Action: The U. S. SIGINT System at Risk (U)," 10 February 1995, F.1.f.

[8](TSC) NSA, "Case for Action," H. 6.

[9](TOP SECRET HANDLE VIA (b)(3):50 USC 403-1(i) CONTROL SYSTEMS JOINTLY) National Security Agency, "U. S. Cryptologic Strategy: Preparing for the 21st Century (U)," TSC-54615-95 (March 1995): 4.

(b)(3):50 USC 403-1(i)

CHAPTER 2

THE SIGINT PROCESS, SOUP TO NUTS

(b)(3):50 USC 403-1(i)

~~(TS~~) Overhead, or spaceborne, Signals Intelligence (SIGINT) assets are managed and utilized by a complex and highly structured set of processes and organizations. A review of this set follows. The Intelligence Community, discussed below, manages the conduct of spaceborne and other intelligence collection through that structure. The requirements driving SIGINT collection and processing have derived, at the most general, fundamental level, from intelligence customer needs. These needs evolve directly from the Foreign Intelligence Requirements Categories and Priorities List (FIRCAP); this pivotal document is currently being replaced by the end product of a presently ongoing review process, addressed later.

SIGINT Players

(b)(3):50 USC 403-1(i)

(~~S~~) The players in the SIGINT arena comprise the Intelligence Community, which is an amorphous group including producers and users, or customers, of SIGINT. While the National Security Agency is the U. S. Government's SIGINT authority and most prolific SIGINT producer, it is not the sole contributor. SIGINT is also produced by CIA and the military services. SIGINT producers are customers of each other, as well as being customers of the agencies producing intelligence in other disciplines, such as human or imagery intelligence. Figure 2-1 details the most commonly recognized players, though it is not exclusive of all others. In the dynamic world of today's foreign intelligence challenges, absent the relative calm of Cold War bipolarity and the resulting singlemindedness of foreign intelligence pursuit, other agencies and organizations frequently participate. With the growing prominence of nontraditional, unconventional intelligence

(b)(1),(b)(3):50 USC 403,(b)(3):P.L. 86-36,1.4 (c)

the membership in this group is never static.

(b)(3):50 USC 403-1(i)

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THE INCHOATE INTELLIGENCE COMMUNITY ....

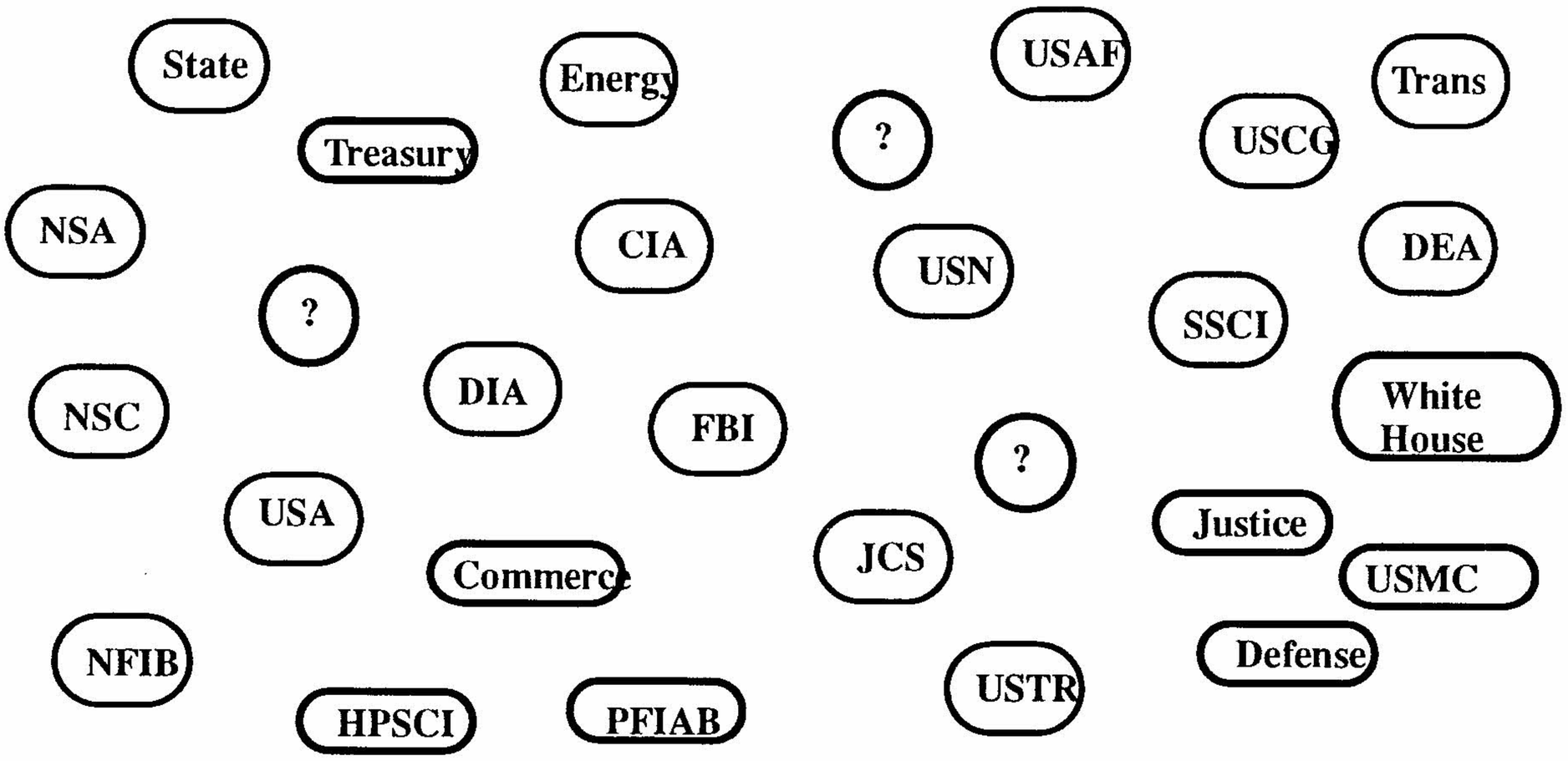

FIGURE 2–1

~~FOR OFFICIAL USE ONLY~~

~~(S)~~ The customers of SIGINT are found in each of the above organizations, and more. Greatly diverse, they range from tactical users on the battlefield, in the air, or at sea, to the national command authority deciding whether and when to launch a nuclear strike, to the negotiator arranging national involvement in a multilateral trade organization. The U. S. military forces, both producers and customers of SIGINT, have complementary interests in tactical military and strategic military, political, social and economic SIGINT. There are military customers for the "small" picture

(b)(3):50 USC 403-1(i)

and the "big" one. Policymakers use SIGINT to help formulate the U. S. approach to any given international situation such as nuclear policy negotiations, economic issues, and environmental agreements. Producers of non-SIGINT intelligence use SIGINT to steer their efforts. SIGINT can, for example, alert imagery intelligence analysts to a photographic opportunity

(b)(1),1.4 (c)

Though their needs are vastly different, signals intelligence has the potential to help each make the most beneficial choices. There is a unitary requirements system in place enabling each such customer to obtain SIGINT that counts.

Intelligence Requirements, From the Top

(b)(3):50 USC 403-1(i)

(~~TS~~) The subject of how foreign intelligence requirements are generated is a study in vertical and horizontal differentiation, or layering and diffusion.[1] When viewed in a bureaucratic context, such differentiation is normally cast in a negative light. In this case the differentiation enables a myriad of inputs and considerations from and across all levels of the Intelligence Community, and is the conduit allowing for a community-wide dialogue on the

(b)(3):50 USC 403-1(i)

process and its resulting policy. At the top of the Intelligence Community hierarchy are its most senior members: the President on the Executive side and the Congress on the Legislative.

The Congress. The primary congressional involvement is generated through the House Permanent Select Committee on Intelligence (HPSCI) and the Senate Select Committee on Intelligence (SSCI), which conduct oversight and control the budget.[2] These Committees are a powerful influence in the Community; the presence of their oversight and the threat they wield through fiscal and legislative powers are primary causal factors in ongoing Intelligence Community changes. These changes, including the new DCI's reorganization and personnel considerations, tend toward more efficiency and effectiveness.

The President. At the top of the intelligence requirements pyramid sits the President. He is advised on intelligence matters by the President's Foreign Intelligence Advisory Board (PFIAB). Serving at the pleasure of the President, and accordingly established as desired by Executive Order by each, the PFIAB: ...shall assess the quality, quantity, and adequacy of intelligence collection, of analysis and estimates, and of counterintelligence and other

intelligence activities.[3] Further, the PFIAB...shall make appropriate recommendations for the improvement and enhancement of the intelligence efforts of the United States.[4]

The President is also served by the Assistant to the President for National Security Affairs (APNSA), likewise an individual of his choosing. Thus, the President has his own intelligence staff, made up of the PFIAB and the APSNA, which potentially has significant bearing, through its recommendations to the President on how the business of intelligence is effected.[5]

National Security Council. The National Security Council (NSC) is a statutory board, created by the National Security Act of 1947.[6] It is made up of the President (usually represented by the APSNA), the Vice President, and the Secretaries of Defense and State. The Director of Central Intelligence (DCI) is usually considered an ad hoc member, depending upon the proclivities of the President. While this group seldom convenes as a pro forma gathering of the NSC, administration goals and objectives are usually clearly understood because of the members' close working relationship to the President, and NSC positions on issues and priorities are thus not difficult for either the mem-

bers, the President or administration outsiders to discern.[7] The DCI's close involvement with the NSC members ensures administration goals are adequately represented in the formulation of subsequent foreign intelligence requirements documentation.

~~(FOUO)~~ **National Foreign Intelligence Board.** The Community Management Staff (CMS), which is responsible to the DCI for resource management, planning, and requirements and evaluation, maintains the National Foreign Intelligence Board (NFIB) (formerly called the United States Intelligence Board, or USIB) as one of its working groups.[8] The NFIB governs the Foreign Intelligence Priorities Committee (FIPC), which:

> ~~(S)~~ ...establishes national priorities for the collection of the IC's [Intelligence Community's] needs, and publishes these priorities in the Foreign Intelligence Requirements Categories and Priorities List (FIRCAP).[9]

~~(S)~~ The FIRCAP, formerly called the Attachment to DCI Directive (DCID) 1/2, is intended to reflect the DCI's thinking on targets and priorities across the entire intelligence spectrum. Specific to SIGINT, it "serves as the *baseline* in determining SIGINT collection and processing

priorities."[10] This pivotal, geotopically structured document, the basis for all that is done in the foreign intelligence business in the U. S., is currently in the process of being replaced with an entirely new concept, sparked by the recent changes in the global environment.

~~(S)~~ **The FIPC and the National Intelligence Needs Process**. In March 1994, the DCI "established a comprehensive process to relate consumer needs to intelligence resources in smarter, more cost-effective ways."[11] Called the National Intelligence Needs Process (NINP), it was developed:

> ~~(C)~~...to replace all existing top-level, multi-disciplinary, intelligence requirements programs. This new requirements system was necessary because Congress and the Clinton Administration were concerned that policymakers had lost control over the intelligence requirements process.[12]

~~(C)~~ The three main components of the NINP are:

1. ~~(C)~~ A set of eighteen regional/topical baseline planning documents called Strategic Intelligence Reviews (SIRs), which identify core issues and gaps. [Gaps are defined as those "missing pieces [of intelligence] that prevent the [Intelligence] Community from fully answering consumer questions."[13]]

2. ~~(C)~~ A list of Enduring [Intelligence] Challenges [EIC] which identifies long-term customer needs and incorporates them into the Community's program-build [fiscal planning] process.

3. ~~(C)~~ A new, multi-disciplinary prioritization

(b)(3):50 USC 403-1(i)

system for intelligence needs.[14]

~~(C)~~ The NINP presents a set of challenges that the Intelligence Community has in recent years, rightly or wrongly, apparently skirted. During the Cold War, it was convenient and reasonable to focus most attention and collection assets at the Soviet Union and its allied or victim nations. The strategic planning that is going into the NINP is a new exercise for the Intelligence Community, and will be difficult. Recognizing and elucidating the intelligence drivers of the current and future global environment, and ranking them for fiscal and exploitation purposes, regardless of complexity, must, however, be done. In the absence of up-to-date direction, the Intelligence Community risks obsolescence, and the nation risks its security. Evaluation will be required to ensure that the new approach achieves its above-stated goals of satisfying customer needs and doing it more efficiently and effectively. Overhead SIGINT collection, due to its expense, must be applied as prudently and sensibly as possible. Evaluation and feedback are necessary to ensuring the faithful adherence of the Intelligence Community to these goals.

~~(C)~~ In addition to DCI's development of the NINP, the President promulgated National Security Directive 35

(b)(3):50 USC 403-1(i)

(NSD-35) in March 1995. Commonly referred to as a Presidential Decision Directive (PDD), it provides guidance on intelligence matters of interest to the country, including prioritization.[15] As the SIRs and the EIC listing near completion, the FIPC is in the process of exchanging the outdated FIRCAP with this new compilation, taking into account both NINP and NSD-35, to be known as the National Intelligence Needs Data Base (NINDB). This data set will provide the overarching policy guidance and up-to-date intelligence rudder for the entire Intelligence Community.[16]

~~CONFIDENTIAL~~

THE NEW INTELLIGENCE NEEDS EQUATION

SIRs + EICs = NINP + NSD 35 = NINDB

FIGURE 2–2

~~CONFIDENTIAL~~

National SIGINT Requirements System

(b)(3):50 USC 403-1(i)

~~(S~~) The governing process for the conduct of SIGINT collection of any sort is the National SIGINT Requirements System (NSRS). It provides a mechanism for the prioritization and tasking of the United States SIGINT System (USSS),

(b)(3):50 USC 403-1(i)

allowing for the logical alignment of collection and processing resources.[17] The organizations involved with ensuring the viability of the NSRS include the National SIGINT Committee, the SIGINT Requirements Validation and Evaluation Subcommittee, and the SIGINT Overhead Reconnaissance Subcommittee.

~~(S)~~ **National SIGINT Committee (SIGCOM)**. The SIGCOM, in existence since the early 1940's under various titles, is subordinate to the National Security Agency. Made up of representatives from across the Intelligence Community, it advises the Director of Central Intelligence and the Director of the National Security Agency on matters involving SIGINT. Among its responsibilities are assessing the "impact of current and future national intelligence objectives"[18] on the USSS; the NINP is likely to engender a great deal of activity on the part of the SIGCOM. Further, the Comittee is charged with evaluating the "satisfaction of signals intelligence requirements, including the contributions of specific SIGINT program[s], and review[ing] for endorsement evaluations done by others in the USSS."[19] The Committee serves as the national-level clearinghouse for SIGINT needs and supports requirements of agencies and orga-

nizations. It has additional responsibilities regarding Signals Intelligence security regulations and SIGINT exchange relationships with foreign countries. The SIGCOM has two multilateral subcommittees, SIRVES and SORS.

(~~S~~-CCO) **SIGINT Requirements Validation and Evaluation Subcommittee (SIRVES)**. The SIRVES is responsible for customer needs as maintained in the National SIGINT Requirements List (NSRL). Made up of representatives from across the intelligence community, the SIRVES is responsible to the SIGCOM for the management of the NSRL, adding, deleting and prioritizing requirements as appropriate. The relevance and criticality of this body in the operation of the USSS cannot be overemphasized. Through it flow *all* SIGINT requirements for approval, prioritization and validation. It is responsible for evaluation of the USSS response to all requirements, and is specifically responsible for reporting to the SIGCOM "any unresolved issues in connection with any SIGINT requirements or evaluation matters."[20] Once again, the recognition of evaluation as central to the functioning of the USSS is reiterated as a function of chartered USSS governing body.

(~~TS~~-CCO) Implementation of requirements in the NSRL is

the only valid method of bringing about the collection,processing, analysis or reporting of SIGINT. Customers engage the system by developing a requirement and submitting it to SIRVES, where it is vetted, considered in the context of the baseline intelligence priorities guidance (currently the FIRCAP, soon to be the NINDB), assigned a priority, and made a part of the NSRL. Customers have access to the list, every component of which is reviewed and reevaluated by the SIRVES not less than once every two years (and more frequently should circumstances dictate).[21]

(b)(3):50 USC 403-1(i)

~~(TSC-~~) **SIGINT Overhead Reconnaissance Subcommittee (SORS)**. The SORS, like the SIRVES, a permanent subcommittee of the SIGCOM and composed of representatives from various intelligence agencies, acts on behalf of the SIGCOM for all matters regarding overhead SIGINT reconnaissance. It is responsible for validating intelligence requirements satisfied via overhead collection assets, and provides guidance on specifics such as prioritization and technical guidance for the tasking of SIGINT satellites. Like the SIGCOM and the SIRVES, it is *also* tasked with evaluation, specifically of overhead collection. It is within the confines of this group that any overhead-specific evaluation initiative is

focused, and from which should come the support for a more customer-intensive process.[22] The SORS is an active, aggressive entity, staffed by a productive and respected mix of technical experts and community representatives. Its success in prioritizing those SIGINT requirements suited to overhead collection, and guiding the overhead collection systems, indicates that it is a good choice for administering a new evaluation and feedback system.

~~(S)~~ The United States Intelligence Board (USIB), the forerunner of the National SIGINT Committee, in establishing the NSRS in 1975, wrote that the system should be "comprehensive, definitive, dynamic, realistic and evaluative." [23] In the following chapter, the evaluation processes currently in place will be discussed, as well as recommendations for those additional needed evaluative processes *not* in place.

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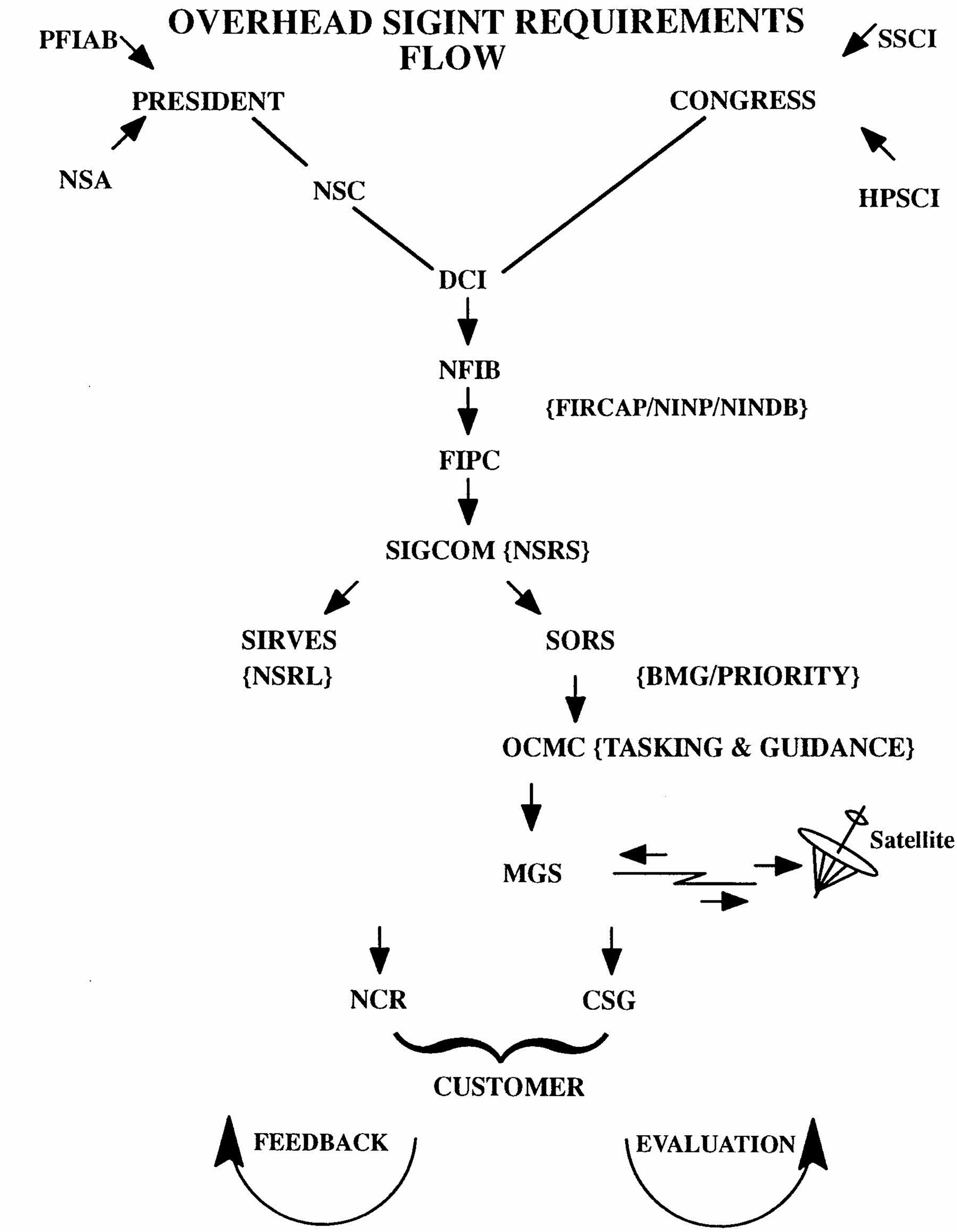

FIGURE 2–3

(b)(3):50 USC 403-1(i)

NOTES

CHAPTER 2

[1](~~FOR OFFICIAL USE ONLY~~) National Security Agency, "Bureaucracy and NSA: Management's Views; The Report of the Director's Task Force on Organizational and Procedural Dysfunction," March 1991: 1, 4.

[2]Stafford T. Thomas, "Intelligence Production and Consumption: A Framework of Analysis," in Intelligence Policy & Process, ed. Alfred C. Maurer, Marion D. Tunstall, and James M. Keagle (Boulder, CO: Westview Press, Inc., 1985), 131-132.

[3]U. S. President, Executive Order 12863, "President's Foreign Intelligence Advisory Board," 13 September 1993, 1. 1.2.

[4]U. S. President, EO 12863, 1.1.3.

[5](~~FOR OFFICIAL USE ONLY~~) (b)(6) Assistant Director, President's Foreign Intelligence Advisory Board Staff, telephone interview by author, 21 April 1995.

[6]U. S. President, "National Security Act," U.S.C. 401, 1947.

(b)(3):50 USC 403-1(i)

[7](~~TOP SECRET HANDLE VIA~~ ~~CHANNELS ONLY~~)
(b)(3):P.L. 86-36
former National Security Agency Representative

(b)(3):50 USC 403-1(i)

to the White House Situation Room, "Intelligence and the Administration (U)," lecture presented at the National Security Agency, Fort Meade, MD, 17 April 1995.

(b)(3):50 USC 403-1(i)

[8] (~~SECRET HANDLE VIA~~ [redacted] ~~CHANNELS ONLY~~) National Security Agency, "The Community Management Staff (U)," Communicator, NSA's Employee Publication 2, no. 40 (17 October 1994): 1-2.

[9] (~~TOP SECRET HANDLE VIA~~ (b)(3):50 USC 403-1(i) ~~CHANNELS JOINTLY~~) National Security Agency, "SIGINT Requirements Primer (U)" (October 1993): 2.

[10] (~~TS-HVTKCCJ~~) National Security Agency, "Primer," 2.

[11] (~~SECRET~~) National Security Agency, "Charting a Course (U)," Communicator, NSA's Employee Publication 2, no. 20 (31 May 1994): 1-2.

[12] (~~SECRET HANDLE VIA~~ COMINT ~~CHANNELS ONLY~~) (b)(3):P.L. 86-36 "Linking the NSRs to National Policy: The Hitchhiker's Guide to Bridging Requirements," Focus on Reporting, 1/95 (1 March 1995): 1.

(b)(3):P.L. 86-36

[13] (~~S-HVCCO~~) [redacted] 1-2.

[14] (~~S~~) NSA, "Charting a Course (U)," 1-2.

[15] (~~SECRET~~) U. S. President, Presidential Decision Directive/NSC-35, 2 March 1995.

(b)(3):50 USC 403-1(i)

16 (~~TOP SECRET HANDLE VIA~~ [redacted] ~~CHANNELS ONLY~~) (b)(6) (b)(6) [redacted], Executive Secretary of the Foreign Intelligence Priorities Committee, telephone interview by author, 19 April 1995.

17 (~~TS HVTKCCJ~~), NSA, "Primer," 1-5.

(b)(3):50 USC 403-1(i)

18 (~~SECRET NOFORN HANDLE VIA~~ [redacted] ~~CHANNELS ONLY~~) National Security Agency, Handbook of the National SIGINT Requirements System, (1 March 1993): F-1.

19 (~~S NF HVCCO~~) National Security Agency, Handbook, F-2.

(b)(3):50 USC 403-1(i)

20 (~~TOP SECRET HANDLE VIA~~ [redacted] ~~CHANNELS ONLY~~) United States Intelligence Board, SIGINT Committee, "SIGINT Requirements Validation and Evaluation Subcommittee (SIRVES)" charter, (25 September 1975).

21 (~~TOP SECRET HANDLE VIA~~ (b)(3):50 USC 403-1(i) ~~CONTROL SYSTEMS JOINTLY~~) (b)(3):P.L. 86-36 [redacted], National Security Agency Representative to the SIRVES, "The SIGINT Requirements System," lecture at the National Security Agency, Fort Meade, MD, 17 October 1994.

22 (~~TOP SECRET HANDLE VIA~~ (b)(3):50 USC 403-1(i) [redacted] ~~CONTROL SYSTEMS JOINTLY~~) United States Intelligence Board, SIGINT Committee, "SIGINT Overhead Reconnaissance Subcommittee" charter, (b)(3):50 USC 403-1(i) [redacted] (10 July 1967).

(b)(3):50 USC 403-1(i) [redacted]

[23] ~~(S-NF HVCCO)~~ NSA, Handbook, Appendix E, 2-3.

CHAPTER 3

THE CHALLENGE OF EVALUATION

Evaluation through Feedback

(b)(3):50 USC 403-1(i)

(~~S~~) A broadly workable model to assess how well the overhead Signals Intelligence process is accomplishing its mission is called for; there is currently no such available mechanism and it is badly needed. A solution to this dilemma could, if applied faithfully, greatly increase efficiency and effectiveness in this discipline. In 1989, author Roy Godson wrote that "...both the operation and the design of future collection systems will be looking...for guidance that is more timely, precise, and extensively justified than heretofore."[1] Neither a standard, objective metric nor a timely, universally accessible process exists for measuring success or providing such guidance. Taking a measured, subjective approach in this case, however, would allow for evaluative feedback which could prove useful to the overhead community managers, the overhead, delivery and processing

system developers, the mission taskers in the Overhead Collection Management Center (OCMC) and the actual mission personnel.

(U) Assessing the perceived difficulty of each task, in order to ascertain relationships between task difficulty and satisfactory task completion, could prove useful in identifying trends in perpetual problem areas. The task difficulty concept will be addressed in Chapter 4. Such a model will highlight areas of weakness and contribute significantly in the ongoing struggle to do more, and better, with less.

Evaluation: Whose Problem?

(b)(3):50 USC 403-1(i)

~~(TS [redacted] NF)~~ Much of the bedrock, charter documentation of the Intelligence Community indicates greatly diffused responsibility for evaluation. Little of the guidance is specific. Instead, the organization or individual is directed to evaluate intelligence, collection and the Intelligence Community, presumably everything beneath itself in the heirarchy. The President's Foreign Intelligence Advisory Board (PFIAB) is tasked by the President with such evaluation.[2] The congressionally appointed Commission on the

Roles and Capabilities of the United States Intelligence Community is tasked with evaluation.[3] The Community Management Staff (CMS) is responsible to the Director of Central Intelligence (DCI) for evaluation.[4] The National SIGINT Committee (SIGCOM) is responsible to the DCI and the Director, National Security Agency (DIRNSA) for evaluation.[5] The SIGINT Requirements Validation and Evaluation Subcommittee (SIRVES) and the SIGINT Overhead Reconnaissance Subcommittee (SORS) are responsible to the SIGCOM for evaluation.[6,7]

(b)(3):P.L. 86-36

Should it not be considered useful to have evaluative feedback from the customer in assessing intelligence? If, however, customer-driven evaluation, or feedback, is to be accepted as the centerpiece of an improved overhead evaluative system, the responsibility for fostering the implementation of the system would be most practically suited to the SORS. It is the best situated due to its bridging of the producer and customer worlds, its multilateral representation, and its uncommon marriage of technical expertise and customer re-

quirements familiarity.

(b)(3):50 USC 403-1(i)

~~(TS~~

(b)(3):P.L. 86-36

(U) The above discussion of current overhead SIGINT evaluative methodology does not include customer feedback as a vehicle for assessment. It would appear that the majority of the evaluation and assessment *of* the system is being conducted *by* the system, albeit a system with integrated customer representatives. As the multiple references in Chapter One indicate, "Our strategy must foster customer-driven programs."[10] In the view of Robert Steele, a veteran

(b)(3):50 USC 403-1(i)

intelligence professional whose credentials include service as Deputy Director of the U. S. Marine Corps Intelligence Center: ...how the United States "does" intelligence is fundamentally flawed. On the one hand, intelligence professionals keep their consumers at arm's length...[11]

(U) Steele goes on to comment that:

> (U) A great deal is "right" with U. S. intelligence...But the reality is that U. S. intelligence has built up an enormous and relatively cumbersome intelligence community which has gradually isolated itself...from its consumers...[12]

(U) In any business, the customer is the most important element. The Intelligence Community is very much like a business: it produces a product in response to a customer demand. What the customer wants, how the customer feels about the product received in response to that desire, and how those pieces of information are conveyed back to the producer are key to a successful business, either the conventional type or the business of intelligence. The criticality of exploiting the "producer/consumer nexus" in the pursuit of excellence cannot be overemphasized.[13] This integration is a key component of Steele's "Prescription for Intelligence Success."[14] The theme is repeated often in authoritative writings on intelligence, such as the follow-

(U) ...only *one essential evaluative standard* remains: the degree to which intelligence meets the needs and requirements of the consumer. That is, while efficiency and effectiveness are key considerations in evaluating intelligence activities like collection, analysis, and dissemination, *responsiveness to the consumer is of utmost importance* in evaluating intelligence as a governmental function. (Emphasis added)[15]

What's to like?

(U) Evaluation, while a necessary part of the intelligence process, is generally unpopular due to its potential for fault-finding and enforcement of change. On the other hand, of course, it represents a shift in the balance of power toward the evaluator; thus it is sought by customers. Managers tend to dread external evaluation due to vested interests, and it is difficult to conduct systematic, measurable assessment of intelligence because of its complex nature.[16] The first case, that of managers or the bureaucracy hesitating to allow external evaluation, is unlikely to pose any serious difficulties in the pursuit of customer driven assessment of overhead SIGINT. The fiscal and oversight pressures under which the Intelligence Community is

operating would likely wither any official disinclination to support such a proposition. Despite the current clime, however, there may be some natural resistance. Judith Hays, Director of the Department of Social Services in Manassas, Virginia, writes about evaluation in the public arena. Although Ms. Hays writes about evaluation in general, her comments remain relevant to the overhead SIGINT process. Bureaucracies being what they are, her assessment of evaluation fits the public or the intelligence sector:

> (U) Now the evaluator joins the parade of experts and intellectuals who would reform [the process], and the manager balks. Evaluation is greeted not with open minds but with resistance, suspicion, and mistrust. Why should that be? Is it true that [managers] are unwilling to be held accountable? That we are afraid to learn whether or not our programs are truly effective? Are [managers] indeed guilty of being more interested in program survival than in program effectiveness?[17]

(b)(3):50 USC 403 (g)

(U) [redacted] highlights one important problem with evaluating intelligence or some public programs: their complexity, which further complicates both the process and its status in the eyes of the evaluated:

> (U) ...evaluation helps answer one key question: Is the program delivering the goods? While a simple "yes" or "no" would seem appropriate for some...programs, this is not the case for United States intelligence. American intelligence is structurally too diverse and functionally too complex to lend itself to

such simplification.[18]

(U) Hays echoes the concern that the complex nature of the process being evaluated can be a stumbling block to effective evaluation:

> (U) Evaluation is a powerful tool for change, but it is still a primitive tool. When [those being evaluated] protest that "What we do cannot be measured," they are expressing their fear that the evaluator's tools are not sophisticated enough...[19]

(U) There is no question that giving customers the means and permission to provide feedback regarding overhead SIGINT on a routine basis in an easily accessible way requires adjustment at both ends of the spectrum. Customers will have to become knowledgeable about overhead SIGINT and be able to evaluate it in a meaningful way. Producers will have to be open to questions and criticisms, patient with ongoing customer intervention, and respond more quickly and effectively than is now usually observed. It will be up to the SIGINT bureaucracy to reinforce the new, broadened bonds with patience, acceptance and responsiveness.

Measuring Success; What Yardstick?

(b)(3):50 USC 403-1(i)

(TS) In order to ascertain the success of any particular completed overhead task, the recipient of the information might be asked, "Did you find that the task was

completed satisfactorily?" The response would be purely subjective and would be difficult to qualify and quantify in any meaningful way. In order to effect change, however, specific feedback inputs are needed. Pursuit of this problem requires identifying a widely accepted set of principles with which the overhead SIGINT can be evaluated. The Joint Chiefs of Staff Joint Publication 2-0, the "Joint Doctrine for Intelligence Support to Operations," offers a succinct set of principles of intelligence quality which could be applied in this endeavor. With some overhead-specific explanatory remarks, the principles are summarized in Figure 3-1.[20]

ATTRIBUTES OF INTELLIGENCE QUALITY

(From the Joint Publication 2–0, Joint Doctrine for Intelligence Support to Operations)

TIMELINESS: Intelligence must be available and accessible in time to effectively use it.

OBJECTIVITY: Intelligence must be unbiased, undistorted, and free from political influence or constraint.

USABILITY: The form in which intelligence is provided to the commander must be suitable for application upon receipt without additional analysis.

READINESS: Intelligence organizations must anticipate and be ready to respond to the existing and contingent intelligence requirements of commanders, staff, and forces at all levels of command.

COMPLETENESS: Commanders, staffs, and forces must receive all the intelligence available to meet their responsibilities and accomplish their missions.

ACCURACY: Intelligence must be factually correct and convey the situation as it actually exists.

RELEVANCE: Intelligence must contribute to an understanding of the situation, to determining objectives that will accomplish the commander's purposes and intents, and to planning, conducting, and evaluating operations.

FIGURE 3–1

~~**FOR OFFICIAL USE ONLY**~~

(b)(3):50 USC 403-1(i)

~~(TSC~~) **Timeliness**. Intelligence must be available and accessible in time to effectively use it. This involves timely collection, processing as necessary, and delivery to the customer. While it could be argued that processing and delivery are not integral to the overhead collection process, their contiguity cannot be overlooked. Flaws in these areas are of significant interest to overhead managers because of their obvious impact on the customer's perceptions of the value of overhead SIGINT. In the case of overhead SIGINT, the customer might include in the timeliness evaluation a measure of whether or not a preplanned collection mission began and ended as intended; i. e., that it did not begin later than required or end earlier than desired. Customers are frustrated by such occurrences, and the shortened collection period, while often justified, is an area requiring attention. By the same token, an unrequested or unnecessarily extended collection period can wreak havoc with scheduling for processing and forwarding systems.

(b)(3):50 USC 403-1(i)

~~(TSC~~) **Objectivity**. Intelligence should be unbiased, undistorted, and free from political influence or constraint. Intelligence concerning a situation is one of

the factors in determining policy, but policy should not determine the intelligence assessment. Objectivity problems are common in the processing of SIGINT. Of more interest in this case, however, are the objectivity-related problems arising from actual collection decisions. It is not uncommon for overhead collection mission personnel to deviate from official tasking, and conduct collection activities in an unsanctioned way. For instance, unpopular collection missions are occasionally slighted in favor of those more well-received at the collection site. Examples of unpopular collection missions would include those deemed by the mission collection apparatus as unworthy of a tasked high priority, or those which, due to their nature, require large amounts of resources to accomplish or limit the use of other resources. There is a problem with mission planners unofficially rearranging tasking in favor of a task which garners recognition for the site. Some tasks, by their very nature, result in no product and thus no long term value for a site whose worth is often erroneously based on the number of intelligence reports bearing its name as the collector of the intelligence. The closed nature of the system allows for these sorts of transgressions to occur, most often without serious repercussion. These are examples of problems

with objectivity in the overhead SIGINT system.

~~(C)~~ **Usability**. The form in which intelligence is provided to the user should be suitable for application upon receipt. It should be tailored to meet the requirements of the user, to include processing as required. It should be understandable and multimedia presentation should be applied as required. To this end, it is critical that producers understand the customer's requirements and limitations.

(b)(1),(b)(3):50 USC 403,(b)(3):P.L. 86-36,1.4 (c)

The range of reporting options is vast; with rapidly expanding communications options and an increasingly educated customer set, providing each user with his or her product of choice will be more and more challenging.

(b)(3):50 USC 403-1(i)

~~(TS~~) **Readiness**. Intelligence organizations must anticipate and be ready to respond to the existing and contingent intelligence requirements of all customers. The introduction of ad hoc requirements should be prepared for and satisfied with minimal delay. Emergent requirements in some cases are planned for in advance, with prearranged

(b)(3):50 USC 403-1(i)

collection tasks which can be invoked on the spur of the moment upon recognition of some indicator. In other cases, current events may initiate a sudden requirement calling for completely unplanned, unforecast collection. While the second instance is much more likely to evidence problems due to inherent unpreparedness, both can and should be evaluated under this category.

(b)(3):50 USC 403-1(i)

~~(TSC~~) **Completeness**. Customers should receive all the intelligence available to meet their responsibilities and accomplish their missions.

(b)(1),(b)(3):18 USC 798,(b)(3):50 USC 403,(b)(3):P.L. 86-36,1.4 (c)

herent value to the user.

(b)(3):50 USC 403-1(i)

~~(TSC)~~ **Accuracy**. Intelligence should be factually correct and convey the situation as it actually exists. Estimative predictions should be included where possible along with options when necessary. While most think about accuracy in terms of assessment, here we are concerned with collection. For these purposes it would be useful to evaluate *collection* accuracy: (b)(1),(b)(3):18 USC 798,(b)(3):50 USC 403,(b)(3):P.L. 86-36,1.4 (c) When specific details are tasked, they should be satisfied in the absence of overriding factors. When not specifically tasked, there should still be accountability when accuracy is not achieved.

~~(C)~~ **Relevance**. Intelligence must contribute to an understanding of the situation, to providing information that will accomplish the customer's purposes and intents, and to planning, conducting and evaluating operations. For intelligence to be truly relevant, it must also meet the qualitative criteria of being complete, accurate, timely, objective and usable. Encouraging customers to consider relevance would help in removing unnecessary tasks from the heavily overburdened system sooner than might otherwise be

the case.

(b)(3):50 USC 403-1(i)

~~(TSC~~) These seven attributes are not in themselves objectively measurable. However, a customer might be given the opportunity to evaluate a selected date's specific collection task in terms of each of these attributes, thus providing feedback on whether or not task completion by the USSS met the requirement for that area. To satisfactorily apply this model to the improvement of overhead SIGINT production, ratings and comments for each task and mission would be studied to determine weak areas and strong ones in terms of specific criteria. Without otherwise being able to identify the areas in which the customer considered the intelligence suboptimal, producing design, tasking or collection remedies will continue be insufficient. If the SIGINT producer is able to peruse the individual criteria markings for each collection mission, the effort of the producers of the signals intelligence could be focused on studying and improving the specified problem areas and then improving future resulting product. This simplified option still offers a more objective evaluative technique than is available today from the customer's perspective. In addition, the customer should be given the opportunity to expand

on the "rating;" narrative comments, suggestions, questions and explanations will likely represent the bulk of the incoming customer response. It is critical that the system function as a two-way communication mechanism to allow the producer to converse with the customer.

NOTES

CHAPTER 3

[1]Roy Godson, Intelligence Requirements for the 1990s: Collection, Analysis, Counterintelligence, and Covert Action (Lexington, MA: Lexington Books, 1989), 36.

[2]U. S. President, Executive Order 12863, "President's Foreign Intelligence Advisory Board (U)," 13 September 1993, 1.1.2.

[3]U. S. Congress. House of Representatives. Intelligence Authorization Act for Fiscal Year 1995, Conference Report; Title IX - Commission on the Roles and Capabilities of the United States Intelligence Community, 103d Cong., 2d sess., H. Rept. 103-753, Sec. 903(a).

[4]~~(SECRET HANDLE VIA COMINT CHANNELS ONLY)~~ National Security Agency, "The Community Management Staff (U)," Communicator, NSA's Employee Publication 2, no. 40 (17 October 1994): 1-2.

[5]~~(SECRET NOFORN)~~ Director of Central Intelligence Directive (b)(3):50 USC 403 (g) "National Signals Intelligence Requirements and Policy Coordination," (1 June 1992) Sec. 1.h.

[6] ~~(TOP SECRET NOFORN HANDLE VIA COMINT CHANNELS ONLY)~~ United States Intelligence Board, SIGINT Committee, "SIGINT Requirements Validation and Evaluation Subcommittee" charter, (25 September 1975) Sec. 3.

[7] Compartmented Source.

[8] ~~(SECRET HANDLE VIA COMINT CHANNELS ONLY)~~ National Security Agency, World Wide Web, Intelink, Online Edition, under "G35 Homepage (U)," 15 April 1995.

(b)(3):50 USC 403-1(i)

[9] ~~(TOP SECRET HANDLE VIA [redacted] CHANNELS ONLY)~~ (b)(3):P.L. 86-36

(b)(3):P.L. 86-36 SIGINT Overhead Reconnaissance Subcommittee Representative to the Overhead Collection Management Center, electronic mail interview by author, 13 December 1994.

[10] ~~(TOP SECRET HANDLE VIA~~ (b)(3):50 USC 403-1(i) ~~CONTROL SYSTEMS JOINTLY)~~ National Security Agency, U. S. Cryptologic Strategy: Preparing for the 21st Century, TSC-54615-95, (March 1995): 4.

[11] Robert D. Steele, "A Critical Evaluation of U. S. National Intelligence Capabilities," International Journal of Intelligence and Counterintelligence 6, No. 2 (Summer 1993): 173.

[12] Steele, 193.

[13] Stafford T. Thomas, "Intelligence Production and Consumption: A Framework of Analysis," in Intelligence Policy &

Process, ed. Alfred C. Maurer, Marion D. Tunstall, and James M. Keagel (Boulder, CO: Westview Press, Inc., 1985), 135-136.

[14]Steele, 193.

[15] (b)(3):50 USC 403 (g)

[16]Grover Starling, Managing the Public Sector (Chicago, IL: The Dorsey Press, 1986), 260.

[17]Judith S. Hays, "Evaluation and Management in Local Human Service Agencies: An Agenda for Collaboration," in Organizational Excellence: Stimulating Quality and Communicating Value, ed. Joseph S. Wholey (Lexington, MA: Lexington Books, 1987), 31.

[18] (b)(3):50 USC 403 (g)

[19]Hays, 32.

[20]Joint Publication (JP) 2-0, "Joint Doctrine for Intelligence Support to Operations," (Washington, DC: Joint Staff, 12 October 1993), IV-19 - IV-23.

CHAPTER 4

Measuring Difficulty; What Yardstick?

(b)(3):50 USC 403-1(i)

~~(TSC~~) It will be useful to determine whether there are correlations between different types of collection tasks and how well they are assessed to have been conducted with respect to the identified attributes. The team in the Evaluations Branch of the Overhead Collection Management Center (OCMC) which might be tasked with administering the customer feedback project could maintain data on "difficulty factors" of specific tasks, to allow for the identification of trends or recurring problems and their relation to specific task performance measured against the principles of intelligence quality. This would allow for consideration of these problems in future design builds or in software or other applications which might be applied to current systems to remedy the problem. To that end, factors increasing the difficulty of satellite collection missions should be identified and similarly applied to each collection task. The

following list of "difficulty factors" might be applied in the same way as the principles of intelligence quality. The following list offers general, universally applicable variables: [1,2,3]

DIFFICULTY FACTORS OF SIGNALS

(b)(3):P.L. 86-36

FIGURE 4–1

(b)(3):50 USC 403-1(i)

NOTES

CHAPTER 4

1

2 ~~(TOP SECRET HANDLE VIA~~ (b)(3):50 USC 403-1(i) ~~CHANNELS JOINTLY)~~ (b)(3):P.L. 86-36 Senior Group Representative to the Overhead Collection Management Center, interviews by author, December 1994 - January 1995.

3 ~~(TOP SECRET HANDLE VIA~~ (b)(3):50 USC 403-1(i) ~~CHANNELS JOINTLY)~~ (b)(3):P.L. 86-36 electronic mail interviews by author, December 1994 - January 1995.

CHAPTER 5

IMPLEMENTING CUSTOMER-DRIVEN FEEDBACK

The Intelligence Customer

(b)(3):50 USC 403-1(i)

(~~S~~) Obtaining the customer's opinion is critical for identifying the relative success of the collection mission against each of the attributes. But just who is the customer? There is a multilayered answer to this question;

(b)(3):P.L. 86-36

(b)(3):50 USC 403-3 (c) (7)

(b)(3):P.L. 86-36

Depending on the level of detail desired, an evaluator administering this methodology could choose either the *internal* or *external* customer. Although for some purposes the former is adequate, it is the latter that is the most important in conducting a true evaluation. There is, too, the possibility that an *intermediate* customer might be involved in the process, perhaps as a surrogate for an external customer. An intermediate customer could be defined as one who is representing the external customer's needs to both the USSS process and the internal customer, such as a National Cryptologic Representative (NCR) or Cryptologic Support Group (CSG).

(b)(3):P.L. 86-36

~~(C)~~ The OCMC personnel doing the actual tasking of the systems can identify the presence or absence of the difficulty factors discussed. In some cases, though, especially

(U) How, then, to gain regular and timely access to the internal, intermediate and external customers to access this information? The Intelligence Community has become extremely large and far flung, as discussed in Chapter 2. This growth and fragmentation have led to the customers being further both organizationally and in many cases geographically from the producers:

> ...at some point in the development of any organization, increased size and concentration of control begin to exert a net negative influence on efficiency and effectiveness. We should consider carefully whether in the near future it might be both possible and desirable...to obtain the effectiveness that often accompanies decentralization, and at the same time the efficiency we sought through centralization. *The communications technology needed to accomplish this double objective (close coordination of decentralized elements) is available.*[2] (Emphasis added)

Intelink...the Shadow Superhighway

(U) This most daunting challenge of routine, meaningful communication with a large, multi-organizational audience on the broad, technically challenging subject of intelligence was recognized in 1993 by a review commissioned by the DCI and the DoD. Out of this review surfaced a recogni-

tion that the lack of a common, Intelligence Community communications architecture hampered effectiveness. The multilateral Intelligence Systems Board (ISB) and Intelligence Systems Secretariat (ISS) were formed to combat this problem, and developed the Intelink concept, based on a "hybrid of the Internet and commercial services such as America On-line and CompuServe."[3] It is defined as follows:

> Intelink is an integrated Intelligence Information Service that provides uniform methods for exchanging intelligence among producers, and between producers and users of intelligence...[that will] permit collaboration...focuses on the exchange of information across organizational boundaries...is a collaborative effort of the civilian and military intelligence communities to develop an architecture framework that increases interoperability....[4]

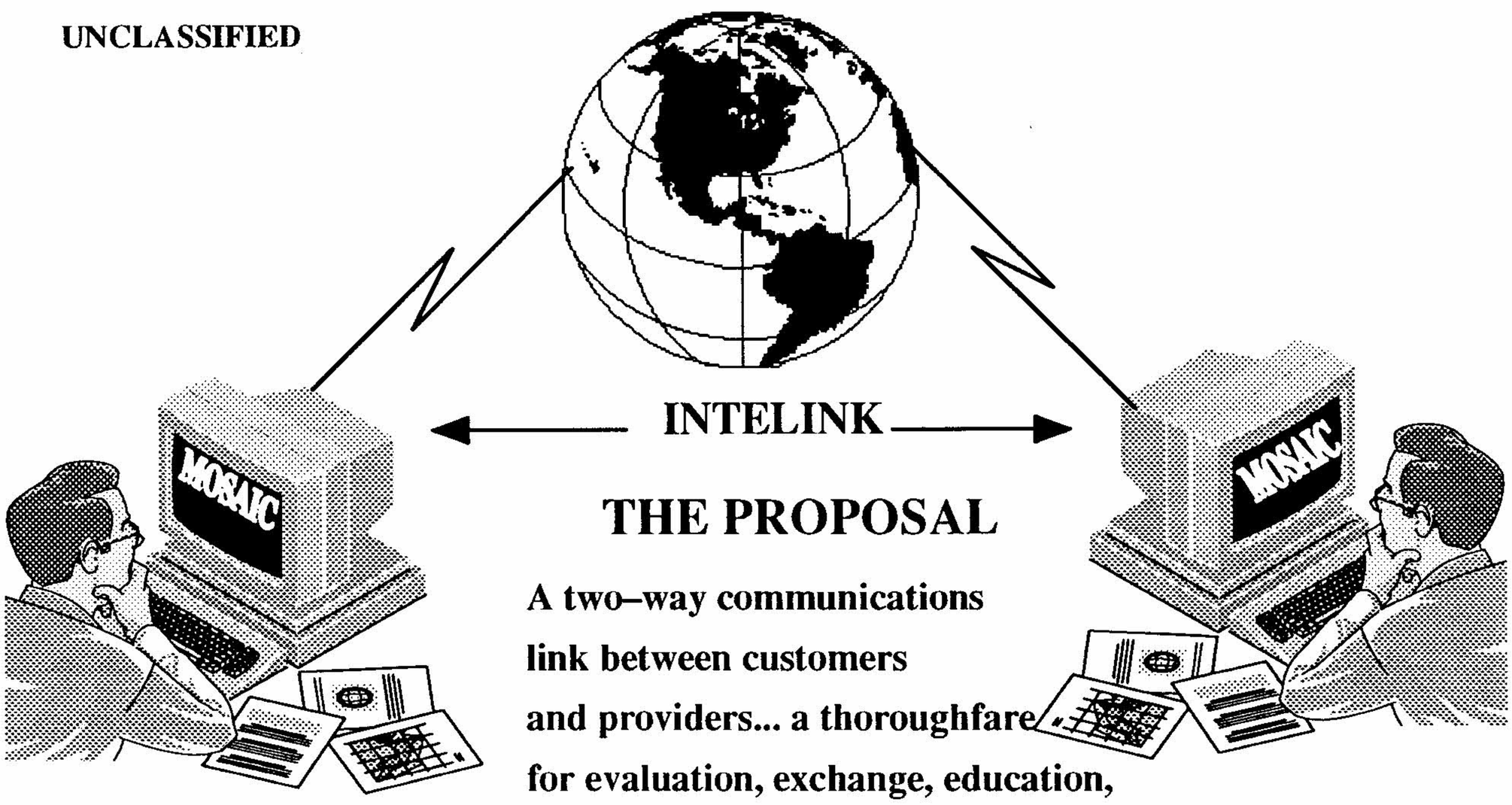

FIGURE 5–1

(b)(3):50 USC 403-1(i)

(b)(3):50 USC 403-1(i)

~~(TS~~) The ease of access and global accessibility to this communications network makes it a perfect thoroughfare for the overhead feedback mechanism. Military and civilian customers alike have access; the lists of users is growing daily for this classified parallel to the Internet (Figure 5-1). Access will be controlled via various security apparatuses administered by security managers at various levels. While the system is currently designed to operate at a Talent Keyhole High level, any security concerns can be addressed using the widely available Ghostwire package for encrypting communications between hosts.[5]

Mosaic...the On-ramp

~~(C)~~ Providing this pathway begs the question: What common vehicle could be pressed into service to perform the function of common data sharing? The number of graphical user interfaces available for use on the Intelink is growing daily. These interfaces, sometimes called GUI's (pronounced "gooeys") or browsers, offer common toolsets, transparent data exchange services, and windows into everything the Intelink offers. The GUI of choice at NSA is Mosaic. It is flexible, multifaceted, aesthetically pleasing, easy to use, and, perhaps most appealing of all, available free of cost

to government users. Mosaic is the Community's gateway or on-ramp into the global Intelink. It is user friendly, built for mouse-clicking rather than command typing and its users require little training. It accesses servers on Intelink using the common universal research locator (URL) protocols.[6] Feedback and two-way communications applications such as electronic mail are regular travelers on the Intelink highway. Users at any location gain access to the system and carry on electronic conversations with co-workers around the globe. Figure 5-2 offers a proposed format which might be applied to provide feedback, ask questions, make comments. If Figure 5-2 was made available to overhead collection managers via the Intelink, these users could make comments or recommendations, ask questions, or open a dialogue using this form, which would be read and responded to by the evaluations personnel in the OCMC.

FIGURE 5–2

COLLECTION COMMUNITY COMMUNICATION TOOL

Your Name _____

Your Command/Agency _____

Today's Date _____ / _____ / _____
yr mo da

***Collector Name** _____

Collection Date _____ / _____ / _____
(if applicable) yr mo da

***SOMMS Task Number/Case Notation** _____ / _____

***Frequency/Signal** _____ / _____

Time of Interest (if applicable) _____ Z

***Quality Attributes: Place X in box if above referenced collection event met your requirements in this area.**

Timelines	☐
Objectivity	☐
Usability	☐
Readiness	☐
Completeness	☐
Accuracy	☐
Relevance	☐

Comments, Questions, Concerns:

* Asterisked items can be selected for further information, choices, or menus

The Virtual Community Defined

~~(S)~~ In practice, exploiting the opportunities presented by the Intelink and Mosaic is quite a manageable task. No costly contracts are required since in-house software personnel could perform the requisite software tasks. In concert with OCMC evaluations branch, SORS could facilitate the composition of a software form, a standard document (Figure 5-2). This form could represent a standalone data gathering tool and could, perhaps, autopopulate the OCMC SIGINT Operational Mission Management System (SOMMS) for trend research. System policy could be promulgated by the SORS, with specific customer concerns addressed via the claimant's SORS representation. Once the software was in place, there would be a resource cost in terms of OCMC OC1 evaluations personnel, as well as customer agency personnel resources, probably existing collection managers. Further, customer agencies might be offered the opportunity to assign personnel, perhaps on a rotating basis, to the OCMC Customer Relations Team for training and as inside advocates of that agency or service. While this might be construed as layering further to the individual agency SORS representatives, it should be viewed as an opportunity for customers to more fully enter the process. This would not only increase cus-

tomer understanding of and support for the system, it would also go far in producing an educated consumer. Accountability would be ensured through SORS oversite and regular feedback to its component agencies. As this proposed capability would initiate an ongoing dialogue, a virtual community of collection managers would be developed, leading to enhanced understanding and more effective utilization of collection resources.

> ~~(C)~~ A core capability of Intelink will be the ability to establish and manage "communities of interest [COI]"...a defined association of persons and processes created for a specific purpose. The COI will...cut across established organizational and spatial boundaries. Establishment...will allow its members to...communicate with each, both in pairs and groups, with greater ease. Provide an environment within which ...data can be more easily handled...online connectivity with customers [can be achieved]...[7]

(U) Vice President Gore's National Performance Review of September 1993 led to the establishment of a task force, to study intelligence support during Operations Desert Shield and Desert Storm.[8] While under distinctly Department of Defense auspices, the task force identified issues of universal applicability:

> (U) Collection requirement management systems involved in the tasking of theater and national...assets are not geared to provide adequate accountability to

each requestor nor feedback....

(U) ...commanders must rely upon synergistic application of intelligence systems and sources at organic, theater and national levels yet they find...little accountability in the overall intelligence structure.

(U) The lab's recommendations seek to improve three critical segments of the intelligence process: the question; the answer; and the delivery.[9]

(U) A joint NRO/JCS working group has been convened to study these issues and make recommendations for their resolution. The group is addressing what it perceives as a universal need for a responsive collection feedback mechanism in which two-way communication is central.[10] While the approach of this effort is enhancing all-source intelligence operability, overhead SIGINT or SIGINT in general will benefit from the concept, both from the feedback and evaluation from customers and from the ongoing education opportunity such an approach provides. For overhead SIGINT purposes, external customer interface might be most efficiently handled through NCRs and CSGs supporting specific customer entities. In many cases, collection management or collection *requirements* management elements of supported agencies would become participants in this virtual community of collection managers.

NOTES

CHAPTER 5

(b)(3):50 USC 403-1(i)

[1] (~~SECRET HANDLE VIA~~ ~~CHANNELS ONLY~~) (b)(3):P.L. 86-36 National Security Agency (b)(3):P.L. 86-36 CSG Advocate, "Cryptologic Support Groups," lecture at the National Security Agency, Fort Meade, MD, 4 May 1995.

(b)(3):50 USC 403-1(i)

[2] (~~SECRET HANDLE VIA~~ ~~CHANNELS ONLY~~) (b)(3):P.L. 86-36 (b)(3):P.L. 86-36 "Restructuring the U. S. Sigint System for Tomorrow's World (U)," Cryptologic Quarterly 8 no.3 (Fall 1989): 117.

[3] (~~FOR OFFICIAL USE ONLY~~) Director of Central Intelligence, Community Management Staff, Intelligence Systems Secretariat, "Intelink Architecture," (June 1994) Sec 1.2 and 2.1.

[4] (~~FOUO~~) Intelligence Systems Secretariat, Sec. 1.

(b)(3):50 USC 403-1(i)

[5] (~~SECRET HANDLE VIA~~ ~~CHANNELS ONLY~~) (b)(3):P.L. 86-36 (b)(3):P.L. 86-36 Chief A723, National Security Agency, interview by author, 30 January 1995.

(b)(3):50 USC 403-1(i)

[6] (~~SECRET HANDLE VIA~~ ~~CHANNELS ONLY~~) (b)(3):P.L. 86-36 (b)(3):P.L. 86-36 "MOSAIC - Your Window on NSA's WebWorld," The A Group Link, 5 no. 1 (April 1995): 3-4.

[7] ~~(FOUO)~~ Intelligence Systems Secretariat, Sec. 2.1.

[8] ~~(SECRET)~~ Director of Central Intelligence, Community Management Staff, Intelligence Support Lab, "Executive Summary," (June 1994): 1.

[9] (~~SECRET~~) Intelligence Support Lab: 1 - 5.

[10] Compartmented Source.

CHAPTER 6

CONCLUSION: AN EVALUATION MODEL EXTANT

(b)(3):50 USC 403-1(i)

~~(S~~) It is important in this day and age that the question "How well?" not be left unanswered, or unanswerable. The viability, and in reality, funding, of any given SIGINT operation or equipment is constantly at risk. The resources that could be devoted to making an evaluative effort have never been more difficult to allocate, but perhaps never more important. The Director of NSA was recently called upon to display for the House Permanent Select Committee on Intelligence the "value of overhead SIGINT." That is unlikely to be the only question on such an expensive effort. It is relatively easy to gather intelligence highlights gained from exploitation of SIGINT satellite-collected data; it is altogether a different thing to answer questions on how well the task is accomplished. Such questions must be answered to perform a true cost-benefit analy-

(b)(3):50 USC 403-1(i)

sis of the value of overhead SIGINT. The process could be streamlined and automated, allowing for its accomplishment with few long-term resources.

(U) Opening one of the Intelligence Community's inner sancta, overhead collection, to the internal and external customers promises to be a challenging endeavor. As

(b)(3):50 USC 403 (g)

insisted "management buy-in at the beginning and every step of the way is critical" in his address on customer satisfaction to a seminar entitled "Measuring Customer Satisfaction in Government."[1] The management of National Security Agency is ready for this commitment to improvement, as evidenced by the following statements by, respectively, the Deputy Director for Operations and the Director:

> We must make genuine, collaborative, customer-focused teamwork our natural way of working together.[2]
>
> We must fully understand what our customers need and expect. Our strategy must foster customer driven programs.[3]

(b)(3):50 USC 403-1(i) ~~(S~~) The methodology discussed in the preceding chapters involves determining, from a technical standpoint, the difficulty of a given task. Further, it entails discovering how well the customer believes that task was accomplished.

(b)(3):50 USC 403-1(i)

Its application should highlight weaknesses and allow for corrective actions. Most importantly, perhaps, the development of the system described will create a global community of educated coworkers with the ability to communicate, discuss, evaluate, provide feedback.

(U) Judith Hays, in writing about evaluation in the public arena, highlights the need for dialogue and mutual respect. The producers of overhead SIGINT must avoid perpetuating the perception that they operate in a world apart from the consumer. Customers must be aggressive in employing the new system, in integrating it into their daily, operational routinges, in becoming educated.[4]

(b)(3):50 USC 403-1(i)

~~(TS~~) Retaining the benefits of overhead SIGINT in the outyears might just entail not only continuing success stories but also developing and maintaining a well-oiled, productive relationship with a vocal, educated and satisfied customer set. The tools for developing this customer set include identifying the customer, gathering and acting on feedback, focusing employees on customer service, and reaching out proactively.[5] As daunting as this challenge sounds, it can be achieved through dedication and mutual respect at the working level, and through support and resource allocation from the management level. Technology has greatly

(b)(3):50 USC 403-1(i)

simplified the task with the delivery of widely accessible communications and capabilities. The USSS virtual community of overhead SIGINT producers and users, joined together for the purposes of improvement, education, and increased efficiency and effectiveness of overhead SIGINT collection, is an idea whose time has come.

NOTES

CHAPTER 6

[1] (b)(3):50 USC 403 (g)

[2] (~~FOR OFFICIAL USE ONLY~~) Barbara A. McNamara, Deputy Director for Operations, National Security Agency, "Message from the DDO," Operations Directorate Delta: Ahead of the Future with SIGINT that Counts 3, no.2 (March/April 1995): 1.

[3] (~~TOP SECRET HANDLE VIA~~ (b)(3):50 USC 403-1(i) ~~CONTROL SYSTEMS JOINTLY~~) National Security Agency, U. S. Cryptologic Strategy: Preparing for the 21st Century, TSC-54615-95 (March 1995): 4.

[4] Judith S. Hays, "Evaluation and Management in Local Human Service Agencies: An Agenda for Collaboration," in Organizational Excellence: Stimulating Quality and Communicating Value, ed. Joseph S. Wholey (Lexington, MA: Lexington Books, 1987), 35.

[5] James Conrad, "Measuring Customer Satisfaction in Government," lecture presented at a seminar in Washington, D. C., 13 March 1995.

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(b)(3):P.L. 86-36 A Group Senior Group Representative to the Overhead Collection Management Center. Multiple ~~TOP SECRET HANDLE VIA~~ (b)(3):50 USC 403-1(i) ~~CONTROL SYSTEMS JOINTLY~~ interviews by author, December 1994 - January 1995.

(b)(3):P.L. 86-36 "Linking the NSRs to National Policy: The Hitchhiker's Guide to Bridging Requirements." ~~SECRET HANDLE VIA~~ CHANNELS ONLY article in Focus on Reporting (March 1995): 1-2.
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(b)(3):50 USC 403-1(i)

(b)(3):50 USC 403-1(i)

(b)(3):P.L. 86-36

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(b)(3):P.L. 86-36

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(b)(3):50 USC 403-1(i)

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(b)(3):50 USC 403 (g),(b)(3):50 USC 403-1(i)

(b)(3):50 USC 403-1(i)

(b)(3):P.L. 86-36 Chief A723, National Security Agency. ~~SECRET HANDLE VIA~~ (b)(3):50 USC 403-1(i) ~~CHANNELS ONLY~~ interview by author. 30 January 1995.

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